ORIGINAL ARTICLE

SEEKING WHAT MATTERS: DETERMINANTS OF CLIENTS' SATISFACTION IN OBSTETRIC CARE SERVICES IN PAKISTAN

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Background: Aim of this study was to determine the dimensions of the service quality in the public hospitals and evaluate the determinants of client satisfaction in obstetric health in the context of Pakistan. **Methods:** The present research evaluates the application of an integrated client satisfaction model that draws mainly from the original SERVQUAL framework in obstetric health services. We conducted a cross-sectional study, in four public district hospitals in Pakistan, enrolling 1101 clients attending obstetric health care services. Measures of service quality and determinants of client satisfaction were factor-analysed and multiple regression analysis was used to test the hypothesis. **Results:** The client satisfaction increased significantly with increases in respondent's age, number of children, number of visits and with decrease in educational status. Factor analysis revealed five service quality dimensions; and multiple regression analysis showed that all five dimensions of service quality in obstetric care were significant in explaining client satisfaction. The most powerful predictor for client satisfaction was provider communication with clients, followed by responsiveness and discipline. **Conclusions:** Interventions aimed at improving client provider interaction would not only advance the clinical provision of services, but would also result in greater patient satisfaction with the services provided, leading to higher levels of facility utilization and continuity of care. Better client provider interaction can be accomplished at hospital's level through focused training of all cadre of service providers sensitizing them on clients' needs. Results also showed that the proposed framework is a valid and flexible instrument in assessing and monitoring service quality and enabling staff to identify where improvements are needed, from the clients' perspective.

Keywords: Service quality, client satisfaction, obstetric health care, SERVQUAL, Pakistan

INTRODUCTION

Since the International Conference on Population and Development that was held in Cairo, Egypt, in 1994, the paradigm shift emphasized an increased focus on the rights of clients, on the quality of care, and on informed choice[1] reaffirming the concept of "client centred care" which has been attributed to a growing interest in evaluating the client satisfaction in reproductive health care[2]. The health care literature suggests that client satisfaction is a dominant concern and an important outcome measure for health services especially in the context of obstetric health care; that is intertwined with strategic decisions in health services.[3]

Although there have been substantial declines in the annual number of maternal deaths since 1990, an estimated 273,500 women die every year as a result of maternal causes.[4] where Sub-Saharan Africa and Southern Asia account for 85% of the global burden. Among women who survive childbirth, approximately 10 million will suffer from complications related to pregnancy and childbirth.[5] Many of these conditions or deaths could be prevented through timely interventions that have proven to be effective and affordable.[6]

Several predicators of client satisfaction with health care have been identified including client expectations, social class, marital status, education, psychological stress, age and in particular interpersonal manner with staff — as the most important dimension.[7,8] As client satisfaction is a recognized component of quality assurance, most health care approaches hence appear to equate service quality with satisfaction.[9,10]

Client satisfaction is one of widely used indicators in assessing the quality of outpatient care. However, there is no single, universally accepted method for measuring this.[11] Most patients lack sufficient expertise and skills to evaluate whether the delivered medical service was performed properly or was even necessary.[12] As a consequence, consumers rely greatly on non-technical process- related dimensions such as the patient–practitioner relationship and/or the surroundings of the service encounter in evaluating service quality.[13,14] Whilst there is extensive literature on client satisfaction with medical services in developed nations[15–18] there is relatively paucity of studies examining the same question in a developing world setting.[19,20]

Consumer satisfaction is fundamental to the practice of consumer sovereignty. For health care providers, consumer satisfaction leads to favourable results, such as higher rates of patient retention, positive word of mouth and higher profits.[21,22] Patient satisfaction also influences the rate of patient

compliance with physician advice and requests.[23] Thus, satisfaction actually affects the outcome of medical practices.

In late 80s, Parasuraman, Berry and Zeithaml proposed SERVQUAL framework[24] for quality measurement which has emerged as a standardized questionnaire to measure service quality and has been utilized for improving satisfaction.[25] As theorized, the SERVQUAL protocol evaluates service quality following the five primary-order dimensions: tangibles (equipment, appearance of staff), reliability (ability to perform the promised service dependably), responsiveness (willingness to help customers and provide prompt service), assurance (knowledge and courtesy of employees and their ability to inspire trust) and, empathy (caring, individualized attention to clients). It conjectures that clients evaluate service quality on these five dimensions[24], although it was also demonstrated that the five dimensional structure had its shortcomings[26], for example it was noted that in specific situations, it might be necessary to delete or modify some of SERVQUAL dimensions or even introduce new ones.[27,28] It was also noted that in developing countries' settings, certain SERVQUAL dimensions such as tangibles and empathy may be more important compared to others[29], owing to cultural differences that directly influence satisfaction.[30]

The present research evaluates the application of an integrated client satisfaction model as proposed in a study in Bangladesh[20] that draws mainly from the original SERVQUAL framework, in the context of Pakistan in obstetric health care services.

This research addresses two major research questions; first to understand what comprise quality services dimensions in the perspective of Pakistan and to propose a model showing the functional relationships among patient satisfaction and quality variables and finally to develop a culturally adapted reference framework for assessment of health care quality in Pakistan

As noted in the Bangladesh study[20], the first hypothesis is that at many hospitals in Pakistan, especially in public hospitals, the patient often complains of the lesser amount of time given to them or that the ailment was not explained to them fully. So we assume that the better communication between the staff and patient will result in increased satisfaction.

H1. The poorer the communication between clients and doctors, the lower the probability that clients will be satisfied with the obstetric health care services.

The second hypothesis is that we consider that staffs in the Pakistani hospitals are apathetic to patients needs in the public health facilities. Inducing the staff to be more responsive, attending to clients' needs quickly, and with care and courtesy, should result in greater patient satisfaction.

H2. The less responsive the staffs are to the client's needs, the lower the probability that clients will be satisfied with the obstetric health care services.

A sense of order and discipline in the hospital environment gives a good impression and also offers services, that client needs. Hence we assume that:

H3. The poorer the hospital and staffs discipline, the lower the probability that clients will be satisfied with the obstetric health care services.

It is noted that many women cannot come to the hospital due to access problems. Sometimes the barriers are physical and sometimes they are monetary. So if the hospital is easily accessible, their satisfaction level with obstetric health care services will improve.

H4. The greater the clients access problems, the greater the probability that clients will not be satisfied with obstetric health care services.

It is generally considered that if someone has good personal relationship with the hospital staff, s/he may get better care and even at times get extra benefits such as better inpatient room /bed, better medicines and shorter waiting time.

H5. The greater the assumption that that for due services, personal connections is required, the greater the probability that clients will not be satisfied.

MATERIAL AND METHODS

Based on the qualitative findings (described below), an alternate framework was adopted in this cross sectional study. As this was the first study across the public hospitals of Pakistan using SERVQUAL framework, it was necessary to use factor analysis for determining the quality dimensions from the clients' perspective. To capture the clients' perspective of what they mean while giving opinion on the nature of the service they want to receive[31]; initially an exploratory, qualitative study was carried out with a sample of 50 clients in Rawalpindi and Abbottabad's public hospitals. Based on their description of quality and enumeration of ideal quality elements in hospital care, six categories having 33 questionnaire items were formed to measure client's satisfaction with quality of care in obstetric health.

In the main research, all items used seven-point Likert scales (1=strongly disagree, 7=strongly agree) to assess the level of clients' expectation and perception of service quality. The survey was conducted in 2008. The respondents were asked to express their opinion not on the single specific consultation after which they were approached by the research team, but on the obstetric health care services in general.

In addition to items dealing with quality, the questionnaire included questions on respondents' socio-demographic characteristics. Their level of satisfaction was assessed by asking whether, i) they were satisfied by the services provided; ii) the money charged

appropriate for the services provided; iii) they would recommend that their friends come to this hospital in case of illness; and, iv) they would revisit this hospital if need arises.

The questionnaire was translated in local (Urdu) language, and back-translated to check the sequence, relevance and clarity of the questions. After pilot-testing (face validity), to ten clients the question order was adjusted to maximize client's comprehension. Content validity of the questionnaire was established using a panel of experts in obstetric health care and survey design

Four tertiary care public hospitals at district level (in respective Swat, Swabi, Jhelum and Multan districts) that provided obstetric health care services (including comprehensive obstetric care services) were selected in provinces of Punjab and the Khyber Pakhtunkhwa (KPK) Province in Pakistan.

Field interviewers underwent intensive training. Particular emphasis was placed on adequacy and accuracy of the information to be collected during exit interviews. The reliability and validity of information was tested outside the selected areas before the study was carried out. No health service personnel were involved in collecting data from their own facility.

Approval was also obtained from the University of Tokyo's ethics committee and from the Ministry of health Pakistan. The inclusion criteria comprised female clients, aged 18–49 years, who obtained obstetric health care services and had also spent at least one night in the hospital in the last twelve months, were approached to participate in the survey which used a self-administered questionnaire. Those women who were physically or mentally ill were not included. Through consecutive sampling, a total of 1140 clients attending obstetric health care services at each of these service delivery points were approached to participate in the survey. The aim of the study was explained to the participants, they were assured of confidentiality and privacy of their information; consents were obtained from clients during hospital exit interviews. The illiterate clients were interviewed by a trained interviewer. The data was processed in SPSS-16. Frequency distributions were obtained to check for data entry errors. Besides cross tabulations, the measures of service quality were factor-analysed and multiple regression analysis was used to test the hypothesis.

RESULTS

Finally, 1101 questionnaires distributed between the clients (response rate=96%) were filled out and were considered effective responses. Nineteen questionnaires were found to have missing information or incomplete and were excluded Clients who declined the questionnaire indicated it was due to personal time

limitations. The averages±standard deviations are shown below.

All respondents in the sample were females with average age of 30(SD±7 years). Mostly married and housewives (90%); Average number of family members per household was 5.4 (SD±2.4), and their median number of children was 3 (q1–q3: 2–5). The study sample was ethnically 53% Pakhtoon and 46% Punjabi; very few (1%) were from other ethnic minorities. The average household had more family members in KPK province than in Punjab ($p<0.01$), and more families had three or more children in KPK province than in Punjab ($p<0.01$).

Women were comparatively better educated in Punjab than in KPK province ($p<0.01$), and 58% of overall respondents had never attended school, roughly the nationwide rate. The results also indicated that satisfaction was also associated with education: the satisfaction level increases with decrease in education level ($p<0.05$). The median income of the sample was Rs. 4500/month (US$ 75). In the sample, 8% of families were earning US$ 1 or less per day, 31% up to US$ 2, while 33 % were earning up to US$ 10.

There were more working women in Punjab ($p<0.01$) and based on income, respondents were relatively better off in Punjab than in KPK ($p<0.01$). It was also noted that on the day of the interview, the respondents paid more for hospital-related charges in KPK than in Punjab ($p<0.01$). However no significant association was found between level of income and satisfaction. For 9% of sampled clients, it was their first visit to hospital; 25% reported that it was their second, 35% their third, 13% their fourth, and 18% their fifth visit to the hospital in the last one year. Generally, for $2/3^{rd}$ of the clients, the current visit was their third or later visit to the hospital. It was also noted that the satisfaction level was higher among those who had made three or more visits ($2/3^{rd}$ majority) than those who had not ($p<0.05$).

On the day of interview, the clients visited hospital to obtain a range of health services such as antenatal services (33%), gynecological consultation (26%), child welfare (17%), family planning services (6%) and others for postnatal care (2%).

The first aim of the study was to determine the service quality dimensions of services offered at public hospitals from the clients perspective. The construct validity was determined using principal component analysis with varimax rotation method. In this analysis, the factors with eigen values equal or higher than 1 were considered significant and chosen for interpretation. On the basis of item analysis, systematically the items that seemed ineffectual were removed and 22 items were finally selected for analysis.

As per the classical SERVQUAL framework, it was assumed that data reduction technique, would at

least identify five factors, if not more. On varimax rotation, the factor analyses resulted in identifying five factors (Table-1), explaining 60% of the cumulative variations. All factor loadings were higher than 0.4, indicating that they were statistically significant and higher than the recommended level.[32] The factor loading of each item has been listed in table-1. In addition, the eigen values criteria and Scree tests further confirmed these 5 factors.

In the results not all the identified dimensions followed the classical five original SERVQUAL factors[24] and had to be adjusted accordingly. It was noted that empathy and assurance did not arose as separate factors rather several items reflecting these in the original SERVQUAL scale loaded with the new communication variable. Responsiveness emerged as a separate factor as predicted in the original SERVQUAL framework, while reliability did not.

Discipline is defined as the sense of order that one perceives in a given service environment and is reflected in both behaviours of the staff and the appearance of the overall hospital environment.[20] The original SERVQUAL 'tangible' variable had to be expanded as 'discipline', to include a few additional items that showed proximity, based on the factor analysis results.

Personal connections also emerged as a new factor, as manipulation of rules is not uncommon in the setting of a developing country, it is common practice to use personal connections to get services, such as less waiting time and better care. Based on the initial qualitative results, physical and monetary access in a developing country was considered important enough to be expected in the results.

Each factor was assessed for reliability using coefficient α. The values of various factors were as follows: discipline (0.89), communication (0.84), responsiveness (0.85), access (0.74), connections (0.73) and satisfaction (0.81). In each case, the reliability coefficient exceeded the value of 0.7 recommended by Nunnally[33] (Table 2).

The multiple regression analysis was used to test the hypothesis. Client satisfaction was entered as dependent variable in the model. The model was found to be significant at an F value of 260 ($p<0.001$) and explained 54% of variation in the dependent variable as indicated by the adjusted R^2 value (Table-3). All the five dimensions of service quality were significant in explaining client satisfaction. Communication had the greatest impact on clients' satisfaction[34], as indicated by the standardized β (beta) values. Responsiveness had the second greatest impact, followed by discipline dimension. This suggests that greater gains can be realized by attending to communication, followed by responsiveness and discipline.

In addition, access and personal connections were also significant but had the least impact. As expected and hypothesized the direction of the relationship of access and personal connections was negative (Table-3). This result indirectly supports the main idea of this thesis, which is that for satisfaction with services, quality (via communication, responsiveness and discipline) is more important than access and personal connections.

Table-1: Factor analysis with varimax rotation

Scale Items	Factor 1 Discipline	Factor 2 Communication	Factor 3 Responsiveness	Factor 4 Personal contacts	Factor 5 Access
Hospital outpatient department is clean	0.867				
Hospital outpatient department is in good condition	0.809				
Bedding is clean	0.729				
Appearance of staff is tidy	0.673				
Ward is clean	0.648				
Staff is disciplined	0.460				
Nurse listened to my problem		0.759			
Doctor explained my disease		0.744			
Doctor was polite		0.717			
Staff answered all queries		0.642			
Hospital environment was friendly		0.531			
Reception counter was friendly		0.528			
Hospital had necessary equipment			0.859		
Staff is courteous and helpful			0.735		
Visiting hours are convenient			0.669		
A nurse is always there to help at night			0.488		
Waiting time for medications was less than expected			0.474		
Personal connections permitted queue hopping				0.995	
Staff/doctor is an acquaintance				0.790	
Connections are needed to receive better care				0.441	
Cost more than Rs.50 to reach hospital					0.983
Took more than 30 minutes to reach hospital					0.585
% of variance explained by the factor after rotation	17%	16%	12%	8.5%	6.5%

Extraction method: Maximum likelihood (with five factor extraction). Rotation method: Varimax with Kaiser Normalization.

Table-2: Correlation matrix

Variables	1	2	3	4	5	6	x	s
Satisfaction (4)	**0.81**						5.36	0.87
Discipline (6)	0.57	**0.89**					5.45	0.93
Communication (6)	0.65	0.52	**0.84**				5.11	0.97
Responsiveness (5)	0.56	0.62	0.46	**0.85**			4.76	1.18
Personal contacts (3)	0.02	0.06	0.16	0.12	**0.73**		2.84	1.52
Access (2)	0.21	0.20	0.38	0.25	0.31	**0.74**	4.24	1.91

All correlations are significant at ($p<0.001$), while correlation between personal contact and discipline is significant at ($p<0.05$). Figures in parenthesis show the number of items used in the formation of a measure. Figures in diagonal (**bold**) represent coefficient á values.
x: sample mean, s: sample standard deviation

Table-3: Regression results. Dependent variable: patient satisfaction

Variable	B	SE	B (Beta)	Significance $p<$
Discipline	0.164	0.026	0.176	0.001
Communication	0.418	0.023	0.467	0.001
Responsiveness	0.195	0.020	0.265	0.001
Personal contacts	-0.049	0.012	-0.086	0.001
Access	-0.020	0.011	-0.044	0.05
Constant	1.625	0.117		0.001

$R^2=0.54$; Adjusted $R^2=0.54$; $F_{(5, 1095)}=260$, $p<0.001$. b: un-standardized coefficients, SE: Standard error, β (beta): standardized coefficients values

DISCUSSION

The main thrust of this paper was to propose an integrative model of health care for assessment of client satisfaction based on relationships among five key constructs, and to test it in the context of Pakistan's health care environment.

Recently, interest in the quality of health care services in developing countries appears to be on the rise.[35] It is argued however that if developing programs are to succeed in resource-poor countries, it is important to elicit the opinions of local people, as well as their degree of satisfaction with available services. The quality of obstetric health care services is declining as reported by Pakistan Social and Living Standards Measurement Surveys (PSLM) which indicates that only a third (31%) of households in 2010–11 reported satisfaction with public sector Basic Health Facilities (40 percent in 2008–09), whereas 12 percent were satisfied with the Family Planning Services (15 percent in 2008–09).[36]

Unlike the result of the study in Turkey[37], the results in our study showed that among clients the satisfaction level increases with decrease in education level as was also indicated in a study from Iran.[38] The patients with previous experience, in terms of number of visits to obtain services in the hospital had lower expectations than the other patients. It seems that their previous experience/repeated visits and recognition has caused them to adjust their expectations in accordance with that specific hospital's facilities and conditions and contended with whatever was being offered to them.

In our study the clients delineate the quality of services in five dimensions: communication, responsiveness, discipline, access and personnel connections. All five service dimensions were significantly associated with the satisfaction variable.

Although SERVQUAL questionnaire was used in this study, but results from the factor analysis did not entirely confirm the framework suggested by the Parasuraman *et al*[24] and in the study by Andaleeb[20], however there were some notable comparisons. In another study, the three dimensions reliability, responsiveness, and assurance were converted into one dimension named reliability/confidence[39] and in Dengjuin *et al*. study; the three dimensions were converted into one dimension named responsiveness[40].

Communication emerged as a separate factor having some items reflecting components of both empathy and assurance from the original framework.[20] The regression analysis result showed that communication was the most strong predictable for client satisfaction. The importance of patient provider communication cannot be stressed strongly enough and the interpersonal relationships are one of the most important factors in the perception of service quality.[41,42] The client wants to know about their health conditions, test results, and treatment procedures. The practitioners/personnel must make the patients aware of their disease conditions, answer their questions, recognize and pay attention to their emotional and social needs and be available when needed.

Responsiveness, had great impact on client satisfaction, also emerged as a factor in line with original framework. Reliability; the ability to perform services dependably and accurately, did not emerge as a separate dimension in this study[29], perhaps due to the fact that clients are hardly ever promised anything by the health care providers[20] in the developing country settings.

The tangibles dimension entails considerable importance for customer evaluation of service quality[24]

also confirmed in the study findings from Singapore and Malaysia.[43,44] We expanded the tangible dimension from the original framework[24], to discipline[20], to include a few additional items that showed proximity, result showed that client valued not only the condition of the service facility but also a sense of order and discipline.

As assumed, access emerged as a separate factor, since majority of population lives in rural areas and are poor so getting to hospital is not only costly but also a difficult task.

Our study also has limitations that restrict the generalize ability of the results. First; the results are based on the public, tertiary care hospitals only, other studies should be carried out in first level care facilities and also in the private settings to increase the generalize ability of results of this study. Second; the majority of patients were urban based and rural areas were not covered. Thus, results must be interpreted with cautions.

According to results of this research, we believe that our adapted version of SERVQUAL is appropriate for evaluating the service quality in obstetric health care services in the context of Pakistan. The SERVQUAL is a valid and flexible instrument which was developed and tested in developed nations, however the general concept is applicable in developing countries as well, but needs adjustments to accommodate local attributes.

The results could be used in the planning for quality improvement by public hospitals. Interventions aimed at improving client provider interaction would not only advance the clinical provision of services, but would also result in greater patient satisfaction with the services provided. Women's satisfaction with the care they receive may feed back into higher levels of facility utilization and continuity of care. Sensitizing the staff of the hospital to work towards improving client satisfaction can be prudent first step to enhance the level of satisfaction of the clients.

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